

Avinash Jaiganesh

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SPECIALIZED SKILLS:

X-ray crystallography
Molecular dynamics simulations
Cloning and molecular biology
Chromatography
Protein biophysics and biochemistry
Bioinformatics

EDUCATION & TRAINING:

August 2012 - May 2018 - **PhD, Biophysics**, The Ohio State University, Columbus, OH (GPA: 3.47)

August 2012 - December 2014 - **M.S., Biophysics**, The Ohio State University, Columbus, OH (GPA: 3.47)

August 2008 - April 2012 - **B.Tech, Industrial Biotechnology**, Anna University, Chennai, India (GPA: 7.53/10)

RESEARCH EXPERIENCE:

- **Doctoral thesis:** "*Cadherin-23 structure, function, and nanomechanics in hearing deafness*" Advisor: Marcos Sotomayor. Duration: 2012 - 2018. The Ohio State University.
- **Undergraduate thesis:** "*Synthesis and characterization of 8-hydroxy quinoline and porphyrin derivatives for applications in electrophoresis, nanoparticle stabilization and live cell imaging*" Advisor: Pennathur Gautam. Duration: 2009 - 2012. Anna University, Chennai, India.
- **Undergraduate summer internship:** "*Algorithm to predict protein homodimer interactions and interface residues*" Duration: Summer 2010. Asian Institute of Medicine, Science and Technology, Penang, Malaysia.

PUBLICATIONS:

1. **Avinash Jaiganesh** and Marcos Sotomayor, "*Exploring the role of cadherin-23 elasticity in inner-ear mechanotransduction*" - Manuscript in preparation for submission in summer, 2018.
2. **Avinash Jaiganesh**, Pedro De-la-Torre, Aniket Patel, Domenic Termine, Florencia Velez-Cortes, Conghui Chen, and Marcos Sotomayor, "*Zooming in on cadherin-23: Structural diversity and potential mechanisms of inherited deafness*" - Structure, 2018, *in press*.
3. **Avinash Jaiganesh**, Yoshie Narui, Raul Araya-Secchi, and Marcos Sotomayor, "*Beyond cell-cell adhesion: sensational cadherins for hearing and balance*" Cold Spring Harb. Perspect. Biol., 2017

PRESENTATIONS and AWARDS:

1. "*Cadherin-23 structures, nanomechanics, and molecular mechanisms of deafness*" - Poster presentation at the Cell Contact & Adhesion Gordon Research Conference at Proctor Academy, Andover, NH (2017).

2. "*Cadherin-23 structures reveal the nanomechanics of hearing and the diverse molecular mechanisms of deafness*" - Oral presentation at the Interdisciplinary Graduate Program Symposium at The Ohio State University (2017).
3. "*Molecular mechanisms of inherited deafness due to missense mutations in cadherin-23*" - **First place and "Outstanding oral presentation"** at the Interdisciplinary Graduate Program Symposium at The Ohio State University (2016)
4. "*Structure and stability of tip-link cadherin-23 fragments involved in hearing and deafness*" -Poster presentation at the Biophysical Society Meeting, Los Angeles, CA (2016)
5. "*Structural characterization of a unique cadherin-23 fragment that is essential for hearing*"- Poster presentation at the Interdisciplinary Graduate Program Symposium at The Ohio State University (2015)

TEACHING EXPERIENCE:

- Graduate Teaching Associate - The Ohio State University, Department of Chemistry and Biochemistry August 2013 – December 2014, and August 2017 - May 2018. All three classes taken by undergraduate and graduate students.
 - (1) Biochemistry 5721: Physical Biochemistry I
 - (2) Biochemistry 5722: Physical Biochemistry II
 - (3) Biochemistry 5621: Laboratory techniques

OTHER POSITIONS:

- Lab Safety Officer - Sotomayor lab, The Ohio State University, 2013 - 2018.